

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Original) A mesostructured material comprising a mineral phase within which are dispersed particles of nanometric dimensions comprising at least one metal oxide in the crystalline state selected from a cerium oxide, a zirconium oxide, a titanium oxide and an oxide of a rare earth other than cerium, said oxide comprising at least one metallic element M in the cationic form, in solid solution within the crystalline lattice of said oxide.

2. (Currently Amended) A material according to claim 1, ~~characterized in that it~~ which is thermally stable.

3. (Currently Amended) A material according to claim 1 ~~or claim 2, characterized in that~~ wherein at least at a local level, it has one or more mesostructures selected from mesoporous mesostructures with three-dimensional hexagonal P63/mmc symmetry, with two-dimensional hexagonal symmetry, with three-dimensional cubic Ia3d, Im3m or Pn3m symmetry; from vesicular or lamellar type mesostructures, or from vermicular type mesostructures.

4. (Currently Amended) A material according to ~~any one of claims 1 to 3~~ claim 1, ~~characterized in that~~ wherein said particles with nanometric dimensions are particles with a spherical or isotropic morphology at least 50% of the population of which has a mean diameter in the range 1 to 10 nm, or highly anisotropic rod type particles at least 50% of the

population of which has a mean transverse diameter in the range 1 to 10 nm and a mean length that does not exceed 100 nm.

5. (Currently Amended) A material according to ~~any one of claims 1 to 4~~ claim 1, ~~characterized in that~~ wherein the metal oxide present within said particles with nanometric dimensions has a degree of crystallinity of 30% to 100% by volume.

6. (Currently Amended) A material according to ~~any one of claims 1 to 5~~ claim 1, ~~characterized in that~~ wherein the quantity of cations of element M in solid solution (or, if appropriate, of the totality of the solid solution doping agents) represents at least 0.2% of the total quantity of metallic cations present in the oxide.

7. (Currently Amended) A material according to ~~any one of claims 1 to 6~~ claim 1, ~~characterized in that~~ wherein said particles with nanometric dimensions are particles based on cerium oxide, and in that said element M is selected from rare earths other than cerium, transition metals that are capable of being integrated in the cationic form in solid solution into a cerium oxide, and alkaline-earth metals.

8. (Currently Amended) A material according to ~~any one of claims 1 to 6~~ claim 1, ~~characterized in that~~ wherein said particles with nanometric dimensions are particles based on zirconium oxide, and in that said element M is selected from rare earths, transition metals that are capable of being integrated in the cationic form in solid solution into a zirconium oxide, and alkaline-earth metals.

9. (Currently Amended) A material according to ~~any one of claims 1 to 6~~ claim 1, ~~characterized in that~~ wherein said particles with nanometric dimensions are particles based on titanium oxide, and ~~in that~~ said element M is selected from rare earths, transition metals

that are capable of being integrated in the cationic form in solid solution into a titanium oxide, and alkaline-earth metals.

10. (Currently Amended) A material according to ~~any one of claims 1 to 6~~ claim 1, ~~characterized in that~~ wherein said particles with nanometric dimensions are particles based on an oxide of a rare earth other than cerium, and ~~in that~~ said element M is selected from rare earths other than the rare earth constituting said oxide, transition metals that are capable of being integrated in the cationic form in solid solution into a rare earth oxide, and alkaline-earth metals.

11. (Currently Amended) A material according to ~~any one of claims 1 to 10~~ claim 1, ~~characterized in that~~ wherein said mineral phase is at least partially constituted by silica.

12. (Currently Amended) A material according to ~~any one of claims 1 to 11~~ claim 1, ~~characterized in that~~ wherein the mineral phase also comprises metallic cations of metal M ad/or clusters based on metal M dispersed within said mineral phase and/or on the surface of said mineral phase.

13. (Currently Amended) A material according to ~~any one of claims 1 to 12~~ claim 1, ~~characterized in that~~ wherein at least a portion of the particles with nanometric dimensions dispersed within the mineral binder phase is in contact with porous portions constituting the internal space of the material.

14. (Currently Amended) A material according to ~~any one of claims 1 to 12~~ claim 1, ~~characterized in that~~ wherein the (mineral binder phase/particles with nanometric dimensions) molar ratio is in the range 20:80 to 99.5: 0.5.

15. (Currently Amended) A material according to ~~any one of claims 1 to 14~~ claim 1, ~~characterized in that it~~ which comprises crystallites based on the oxide, hydroxide, oxyhydroxide, carbonate or hydroxycarbonate of said element M.

16. (Currently Amended) An ordered mesoporous or mesostructured material according to ~~any one of claims 1 to 15~~ claim 1, ~~characterized in that~~ wherein said material has a BET specific surface area in the range 750 to 2300 m² per cm³ of material.

17. (Currently Amended) A process for preparing a material according to ~~any one of claims 1 to 16~~ claim 1, ~~characterized in that it~~ which comprises successive steps consisting in comprising:

- a) producing a mineral mesostructure integrating, within its walls, particles with nanometric dimensions comprising a metal oxide in its crystalline state selected from a cerium oxide, a zirconium oxide, a titanium oxide and a rare earth oxide other than cerium;
- b) introducing into the mesoporous structure obtained, a compound based on said element M, the total amount of element M introduced into the structure with respect to the total surface area developed by the mesostructure being less than 5 micromoles of cation per m² of surface; and
- c) subjecting the mesostructure produced to a temperature of at least 300°C and not higher than 1000°C.

18. (Currently Amended) A preparation process according to claim 17, ~~characterized in that~~ which step a) is implemented by carrying out the following steps:

- a1) forming an initial medium comprising a templating agent, namely a surfactant type amphiphilic compound which can form micelles in the reaction medium;

- a2) adding to the medium of step 1a) a colloidal dispersion of particles with nanometric dimensions based on a metal oxide in the crystalline state, selected from cerium oxide, a zirconium oxide, a titanium oxide and a rare earth oxide other than cerium;
- a3) forming a mesostructured mineral phase, usually at least partially, or even essentially constituted by silica, said mineral phase by adding a mineral precursor to the medium; and
- a4) eliminating the templating agent, in particular by heat treatment or by entrainment by a solvent.

19. (Currently Amended) A preparation process according to claim 17 ~~or claim 18~~, ~~characterized in that~~ wherein step b) is carried out by immersing the mesostructured material obtained at the end of step a) in a solution comprising the element M in a concentration in the range 0.1 to 1.5 mol/l then filtering the medium obtained.

20. (Currently Amended) A preparation process according to claim 17 ~~or claim 18~~, ~~characterized in that~~ wherein step b) is carried out by immersing the mesostructured material obtained at the end of step a) in an aqueous or hydro-alcoholic solution comprising cations of metal M in a concentration in the range 0.2 to 1.5 mol/l then centrifuging the medium obtained at a rate of 2000 to 5000 rpm, for a period not exceeding 30 minutes.

21. (Currently Amended) A preparation process according to ~~any one of claims 17 to 20~~ claim 17, ~~characterized in that~~ wherein, following the impregnation/heat treatment procedures of steps b) and c), it comprises one or more subsequent impregnation/heat treatment cycles implementing steps of type b) and c) carried out on the solid obtained from the preceding cycle.

22. (Currently Amended) ~~Use of a material according to any one of claims 1 to 16 or of a A material that can be obtained by the process of any one of claims 17 to 21, as claim 17, which is~~ a heterogeneous acidic, basic or redox catalyst.

23. (Currently Amended) ~~Use of a material according to any one of claims 1 to 16 or of a material that can be obtained by a process according to any one of claims 17 to 21, in which said A material comprises~~ comprising particles of cerium oxide integrating manganese in solid solution within the walls of its mesostructure, as a catalyst for absorption of oxides of nitrogen.

24. (Currently Amended) ~~Use of a material according to any one of claims 1 to 16 or of a A material that can be obtained by a process according to any one of claims 17 to 21~~ claim 1, as a support for catalytic species.

25. (Currently Amended) A catalyst ~~that can be obtained by supporting catalytic species on a material according to any one of claims 1 to 16 or of a material that can be obtained by a process according to any one of claims 17 to 21~~ claim 1.